

Idaho Extended Standards Draft
Extended Content Indicators
Grade 5
Mathematics

Standard 1: Number and Operation - Students in Grade 5 read, write, compare, and order whole numbers through billions and decimal numbers through thousandths. Students identify commonly used equivalent fractions. Students add and subtract fractions with like denominators without simplification and decimals through thousandths, including making change. Students recall basic multiplication and division facts up to 10's and students multiply and divide whole numbers. Students select and use an appropriate method of computation from mental math, paper and pencil, calculator or combination of the three and students estimate to predict computation results.

Extended Standard 1: Students in Grade 5 read, write, compare, or order whole numbers and simple decimal numbers. Students identify commonly used fractions as a part of a whole. Students use objects or pictures to explore adding and subtract fractions with like denominators and decimals using money. Students compute basic multiplication and division facts with or without a calculator. Students follow the appropriate method of computation using paper and pencil or calculator or combination. Students use simple estimation skills.

Topic	GR	Goals	Objectives	Essence	Extended Content Indicators
	5.M.1.1	Understand and use numbers.	5.M.1.1.1 Read, write, compare, and order whole numbers through millions and decimal numbers through thousandths. (307.01.a)		5.M.1.1.1 A Communicate and demonstrate whole numbers to 100 and decimal numbers to hundredths.
			5.M.1.1.2 Identify and apply place value in whole numbers and decimal numbers to thousandths. (307.01.b)		5.M.1.1.2A Identify place value for whole numbers to 100 and decimal numbers to hundredths.
			5.M.1.1.3 Count back change from \$10.00.		5.M.1.1.3A Sort dollar denominations and use whole dollar estimation up to \$10.00
			5.M.1.1.4 Compare and order commonly used fractions and their equivalents. (307.01.e)		5.M.1.1.4A Compare commonly used fractions with symbolic representations
			5.M.1.1.5 Identify decimal equivalents of commonly used fractions. (307.01.c)		5.M.1.1.5A Match a commonly used fractions with its equivalent decimal
			5.M.1.1.6 Apply the number theory concepts of primes, composites, multiples, and factors. (307.01.f)		5.M.1.1.6 A Use repeated addition to demonstrate prime numbers in multiplication.

			5.M.1.1.7 Select strategies appropriate for solving a problem		5.M.1.1.7A Choose appropriate application to solve a problem.
			5.M.1.1.8 Use appropriate vocabulary.		5.M.1.1.8 A Recognize appropriate vocabulary.

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Extended Standard 1: Students in Grade 5 read, write, compare, or order whole numbers and simple decimal numbers. Students identify commonly used fractions as a part of a whole. Students use objects or pictures to explore adding and subtract fractions with like denominators and decimals using money. Students compute basic multiplication and division facts with or without a calculator. Students follow the appropriate method of computation using paper and pencil or calculator or combination. Students use simple estimation skills.

Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
	5.M.1.2	Perform computations accurately.	5.M.1.2.1 Recall basic multiplication and division facts up to 10's. (307.02.d)		5.M.1.2.1A Explore single digit multiplication for 1's – 10's through symbolic concrete systems
			5.M.1.2.2 Add and subtract decimal numbers through thousandths. (307.02.c)		5.M.1.2.2 A Identify numbers with decimals have a part of a whole, e.g. money using coins and dollars
			5.M.1.2.3 Multiply and divide whole numbers. (307.02.a)		5.M.1.2.3 A Explore division through the manipulation of dividing a whole into repeated equal sets
			5.M.1.2.4 Add and subtract fractions with like denominators without simplification. (307.02.b)		5.M.1.2.4 A Recognize common small pieces or fractions to fourths can be subtracted from the whole.
			5.M.1.2.5 Evaluate numerical expressions that include parentheses. (307.02.e)		5.M.1.2.5A Solve single addition and subtraction problems that include parentheses, using calculator or manipulatives if necessary.
			5.M.1.2.6 Select and use an appropriate method of computation from mental math, paper and pencil, calculator or a combination of the three. (307.02.f)		5.M.1.2.6A Choose concrete objects, symbolic systems or calculator to solve addition or subtractions problems

			5.M.1.2.7 Use a variety of strategies to solve real life problems. (308.01.a)		5.M.1.2.7A Use a variety of strategies to solve real life problems.
			5.M.1.2.8 Use appropriate vocabulary. (307.02.g)		5.M.1.2.8 A Recognize appropriate vocabulary.

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Extended Standard 1: Students in Grade 5 read, write, compare, or order whole numbers and simple decimal numbers. Students identify commonly used fractions as a part of a whole. Students use objects or pictures to explore adding and subtract fractions with like denominators and decimals using money. Students compute basic multiplication and division facts with or without a calculator. Students follow the appropriate method of computation using paper and pencil or calculator or combination. Students use simple estimation skills.

Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
	5.M.1.3	Estimate and judge reasonableness of results.	5.M.1.3.1 Estimate to predict computation results. (307.03.a)		5.M.1.3.1A Estimate to predict results or amounts.
			5.M.1.3.2 Identify when an estimate is sufficient or when an exact answer is required. (307.03.b)		5.M.1.3.2A Identify daily activities where estimation is appropriate.
			5.M.1.3.3 Explain why a given estimate is an overestimate or underestimate. (307.03.c)		5.M.1.3.3.A Determine over and under estimations in daily living activities.
			5.M.1.3.4 Use a four-function calculator to solve complex grade-level problems.		5.M.1.3.4 A Use a calculator to solve problems
			5.M.1.3.5 Formulate conjectures and discuss why they must be or seem to be true. (308.02.c)		5.M.1.3.5 A Formulate a guess to a problem.
			5.M.1.3.6 Use appropriate vocabulary. (307.03.d)		5.M.1.3.6A Recognize appropriate vocabulary.

Standard 2: Concepts and Principles of Measurement - Students in Grade 5 select and use appropriate units and tools to make formal measurements in both systems. Students measure perimeter and area in both systems. Students solve problems involving elapsed time, length, perimeter, and area and students convert units of length within each system.

Extended Standard 2: Students in Grade 5 select the appropriate units and tools for measurements. Students identify the spatial concept of perimeter and area. Students solve basic problems involving elapsed time and length and students match equivalent units of length.

Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
	5.M.2.1	Understand and use U.S. customary and metric measurements.	5.M.2.1.1 Select and use appropriate units and tools to make formal measurements of length, temperature, weight, and volume (capacity) in both systems. (309.01.a)		5.M.2.1.1A Select the appropriate units and tools to make formal measurements of length, temperature, weight
			5.M.2.1.2 Estimate length, time, weight, temperature, and volume (capacity) in real-world problems using standard units. (309.01.b)		5.M.2.1.2A Estimate length, time, weight, and temperature in real-world problems
			5.M.2.1.3 Tell time to the nearest second		5.M.2.1.3 A Tell time using a digital or analog clock.
			5.M.2.1.4 Solve real world problems related to elapsed time. (309.01.d)		5.M.2.1.4A Identify real world problems related to elapsed time.
			5.M.2.1.5 Calculate the perimeter of polygons and the area of rectangles and squares. (309.01.c, 311.01.d)		5.M.2.1.5A Recognize the concept of around (perimeter) and area for simple polygons, i.e. rectangle and squares.
			5.M.2.1.6 Convert units of length within each system. (309.01.e)		5.M.2.1.6 A Match equivalent units length within the U.S. customary system
			5.M.2.1.7 Convert days into weeks and years and years into decades and centuries.		5.M.2.1.7 A Use a calendar in daily life activities.
			5.M.2.1.8 Recall length, volume (capacity), and mass equivalences involving millimeters, centimeters, meters, milliliters, liters, grams, and kilograms in the metric system.		5.M.2.1.8 A Match equivalent units of weight and volume.

			5.M.2.1.9 Use appropriate vocabulary. (309.01.g)		5.M.2.1.9 A Recognize appropriate vocabulary.
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Standard 2: Concepts and Principles of Measurement - Students in Grade 5 select and use appropriate units and tools to make formal measurements in both systems. Students measure perimeter and area in both systems. Students solve problems involving elapsed time, length, perimeter, and area and students convert units of length within each system.

Extended Standard 2: Students in Grade 5 select the appropriate units and tools for measurements. Students identify the spatial concept of perimeter and area. Students solve basic problems involving elapsed time and length and students match equivalent units of length.

Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
	5.M.2.2	Apply the concepts of rates, ratios, and proportions.	No objectives at this grade level.		No objectives at this grade level.

Standard 2: Concepts and Principles of Measurement - Students in Grade 5 select and use appropriate units and tools to make formal measurements in both systems. Students measure perimeter and area in both systems. Students solve problems involving elapsed time, length, perimeter, and area and students convert units of length within each system.

Extended Standard 2: Students in Grade 5 select the appropriate units and tools for measurements. Students identify the spatial concept of perimeter and area. Students solve basic problems involving elapsed time and length and students match equivalent units of length.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.2.3	Apply dimensional analysis.	No objectives at this grade level.		No objectives at this grade level.

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 5 read and use symbols of “<,” “>,” and “=” to express relationships. Students solve missing factor problems. Students identify a rule for a pattern using whole numbers and students extend the pattern.

Extended Standard 3: Students in Grade 5 compare objects or pictures using vocabulary or symbols of “<,” “>,” and “=” to express relationships. Students solve missing addend or factor equations, using concrete objects or calculator when necessary. Students identify a pattern and use concrete manipulatives to represent a simple rule for a pattern.

Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
	5.M.3.1	Use algebraic symbolism as a tool to represent mathematical relationships.	5.M.3.1.1 Write a division problem as a proper and an improper fraction.		5.M.3.1.1 A Express the concept of division using concrete objects or pictures
			5.M.3.1.2 Translate simple word statements for addition and multiplication into numeric expressions. (310.01.b)		5.M.3.1.2A Translate simple word statements into numeric expression.
			5.M.3.1.3 Write a fact family when given two factors.		5.M.3.1.3A Show the relationship in fact families for mathematical operations.
			5.M.3.1.4 Read and use symbols of “<,” “>,” and “=” to express relationships. (310.01.c)		5.M.3.1.4 A Compare objects or pictures using vocabulary or symbols of “<,” “>,” and “=” to express relationships.

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 5 read and use symbols of “<,” “>,” and “=” to express relationships. Students solve missing factor problems. Students identify a rule for a pattern using whole numbers and students extend the pattern.

Extended Standard 3: Students in Grade 5 compare objects or pictures using vocabulary or symbols of “<,” “>,” and “=” to express relationships. Students solve missing addend or factor equations, using concrete objects or calculator when necessary. Students identify a pattern and use concrete manipulatives to represent a simple rule for a pattern.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.3.2	Evaluate algebraic expressions.	5.M.3.2.1 Use the following properties as they relate to addition and multiplication: commutative, associative, and distributive. (310.02.a)		5.M.3.2.1 A Use the following properties as they relate to addition and multiplication: commutative, identity or zero.

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 5 read and use symbols of “<,” “>,” and “=” to express relationships. Students solve missing factor problems. Students identify a rule for a pattern using whole numbers and students extend the pattern.

Extended Standard 3: Students in Grade 5 compare objects or pictures using vocabulary or symbols of “<,” “>,” and “=” to express relationships. Students solve missing addend or factor equations, using concrete objects or calculator when necessary. Students identify a pattern and use concrete manipulatives to represent a simple rule for a pattern.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.3.3	Solve algebraic equations and inequalities.	5.M.3.3.1 Solve missing factor equations. (310.03.a)		5.M.3.3.1A Solve missing addend or simple factor equations, using concrete objects or calculator when necessary

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 5 read and use symbols of “<,” “>,” and “=” to express relationships. Students solve missing factor problems. Students identify a rule for a pattern using whole numbers and students extend the pattern.

Extended Standard 3: Students in Grade 5 compare objects or pictures using vocabulary or symbols of “<,” “>,” and “=” to express relationships. Students solve missing addend or factor equations, using concrete objects or calculator when necessary. Students identify a pattern and use concrete manipulatives to represent a simple rule for a pattern.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.3.4	Understand the concept of functions.	5.M.3.4.1 Identify the rule for a pattern using whole numbers and extend the pattern. (313.01.a)		5.M.3.4.1A Identify a simple pattern using whole numbers.
			5.M.3.4.2 Use appropriate vocabulary. (313.01.d)		5.M.3.4.2 A Recognize appropriate vocabulary.

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 5 read and use symbols of “<,” “>,” and “=” to express relationships. Students solve missing factor problems. Students identify a rule for a pattern using whole numbers and students extend the pattern.

Extended Standard 3: Students in Grade 5 compare objects or pictures using vocabulary or symbols of “<,” “>,” and “=” to express relationships. Students solve missing addend or factor equations, using concrete objects or calculator when necessary. Students identify a pattern and use concrete manipulatives to represent a simple rule for a pattern.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.3.5	Represent equations, inequalities and functions in a variety of formats.	No objectives at this grade level.		No objectives at this grade level.

Standard 3: Concepts and Language of Algebra and Functions - Students in Grade 5 read and use symbols of “<,” “>,” and “=” to express relationships. Students solve missing factor problems. Students identify a rule for a pattern using whole numbers and students extend the pattern.

Extended Standard 3: Students in Grade 5 compare objects or pictures using vocabulary or symbols of “<,” “>,” and “=” to express relationships. Students solve missing addend or factor equations, using concrete objects or calculator when necessary. Students identify a pattern and use concrete manipulatives to represent a simple rule for a pattern.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.3.6	Apply functions to a variety of problems.	5.M.3.6.1 Use patterns to represent problems. (313.02.a)		5.M.3.6.1 A Use concrete manipulatives to represent a simple rule for a pattern.

Standard 4: Concepts and Principles of Geometry - Students in Grade 5 identify, compare and analyze attributes of polygons and polyhedra and develop vocabulary to describe the attributes. Students identify and label points, lines, line segments, rays, and angles. Students calculate the perimeter of polygons and the area of rectangles and squares. Students use ordered pairs to identify and plot points in the first quadrant on a coordinate grid.

Extended Standard 4: Students in Grade 5 identify and compare attributes of polygons and develop vocabulary to describe the attributes. Students identify points, lines, and angles. Students identify the difference between perimeter and area. Students identify a grid and indicate where points on a grid are located.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.4.1	Apply concepts of size, shape, and spatial relationships.	5.M.4.1.1 Identify, compare and analyze attributes of polygons and polyhedra and develop vocabulary to describe the attributes. (311.01.a)		5.M.4.1.1.A Identify a polygon and develop vocabulary to describe the attributes.
			5.M.4.1.2 Classify angles without formal measures as acute, right, obtuse, and/or straight.		5.M.4.1.2.A Identify right or straight angles without formal measures.
			5.M.4.1.3 Identify and label points, lines, line segments, rays, and angles. (311.01.b)		5.M.4.1.3.A Identify points, lines, and line segments.
			5.M.4.1.4 Discuss and predict the results of sliding, flipping, and turning two-dimensional shapes. (311.01.e)		5.M.4.1.4.A Identify when a two dimensional shape has been flipped or rotated
			5.M.4.1.5 Identify shapes as congruent, similar, or symmetrical.		5.M.4.1.5.A Match shapes that are congruent, similar, or symmetrical.
			5.M.4.1.6 Explain the difference between perimeter and area of a polygon. (311.01.d)		5.M.4.1.6.A Indicate the difference between perimeter and area of a polygon.
			5.M.4.1.7 Use appropriate vocabulary. (311.01.f)		5.M.4.1.7 A Recognize appropriate vocabulary.

Standard 4: Concepts and Principles of Geometry - Students in Grade 5 identify, compare and analyze attributes of polygons and polyhedra and develop vocabulary to describe the attributes. Students identify and label points, lines, line segments, rays, and angles. Students calculate the perimeter of polygons and the area of rectangles and squares. Students use ordered pairs to identify and plot points in the first quadrant on a coordinate grid.

Extended Standard 4: Students in Grade 5 identify and compare attributes of polygons and develop vocabulary to describe the attributes. Students identify points, lines, and angles. Students identify the difference between perimeter and area. Students identify a grid and indicate where points on a grid are located.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.4.2	Apply the geometry of right triangles.	No objectives at this grade level.		No objectives at this grade level.

Standard 4: Concepts and Principles of Geometry - Students in Grade 5 identify, compare and analyze attributes of polygons and polyhedra and develop vocabulary to describe the attributes. Students identify and label points, lines, line segments, rays, and angles. Students calculate the perimeter of polygons and the area of rectangles and squares. Students use ordered pairs to identify and plot points in the first quadrant on a coordinate grid.

Extended Standard 4: Students in Grade 5 identify and compare attributes of polygons and develop vocabulary to describe the attributes. Students identify points, lines, and angles. Students identify the difference between perimeter and area. Students identify a grid and indicate where points on a grid are located.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.4.3	Apply graphing in two dimensions.	5.M.4.3.1 Use ordered pairs to identify and plot points in the first quadrant on a coordinate grid. (311.02.a)		5. M.4.3.1.A. Identify the difference between a point and a grid.

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 5 read and interpret tables, charts, bar graphs, and line graphs. Students collect, organize, and display the data with appropriate notation in tables, charts, bar graphs, and line graphs and students make predictions and decisions based on data.

Extended Standard 5: Students in Grade 5 read and display data in simple tables, charts, bar graphs, and line graphs. Students make predictions based on data.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.5.1	Understand data analysis.	5.M.5.1.1 Read and interpret tables, charts, bar graphs, and line graphs. (312.01.a)		5.M.5.1.1.A Read and interpret simple charts, bar graphs, circle graphs, or line graphs.
			5.M.5.1.2 Use appropriate vocabulary. (312.01.c)		5.M.5.1.2 A Recognize appropriate vocabulary.

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 5 read and interpret tables, charts, bar graphs, and line graphs. Students collect, organize, and display the data with appropriate notation in tables, charts, bar graphs, and line graphs and students make predictions and decisions based on data.

Extended Standard 5: Students in Grade 5 read and display data in simple tables, charts, bar graphs, and line graphs. Students make predictions based on data.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.5.2	Collect, organize, and display data.	5.M.5.2.1 Collect, organize, and display the data with appropriate notation in tables, charts, bar graphs, and line graphs. (312.02.a)		5.M.5.2.1.A Organize and display data in tables, bar graphs, and circle or line graphs using title, labels, and reasonable scales.

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 5 read and interpret tables, charts, bar graphs, and line graphs. Students collect, organize, and display the data with appropriate notation in tables, charts, bar graphs, and line graphs and students make predictions and decisions based on data.

Extended Standard 5: Students in Grade 5 read and display data in simple tables, charts, bar graphs, and line graphs. Students make predictions based on data.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.5.3	Apply simple statistical measurements.	5.M.5.3.1 Find measures of central tendency - median and mode - with simple sets of data using whole numbers. (312.03.a)		5.M.5.3.1.A Find the median and mode - with simple sets of arranged data between 1-9 using whole numbers.
			5.M.5.3.2 Find the range of a set of data using whole numbers. (312.03.b)		5.M.5.3.2.A Find the end points of the range of a set of data using whole numbers 1-10.

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 5 read and interpret tables, charts, bar graphs, and line graphs. Students collect, organize, and display the data with appropriate notation in tables, charts, bar graphs, and line graphs and students make predictions and decisions based on data.

Extended Standard 5: Students in Grade 5 read and display data in simple tables, charts, bar graphs, and line graphs. Students make predictions based on data.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.5.4	Understand basic concepts of probability.	5.M.5.4.1 Predict, perform, and record results of simple probability experiments using fraction notation. (312.04.a)		5.M.5.4.1.A Predict results of simple probability experiments using coins and spinners.
			5.M.5.4.2 Use the language of probability. (312.04.b)		5.M.5.4.2.A Use the language of probability.

Standard 5: Data Analysis, Probability, and Statistics - Students in Grade 5 read and interpret tables, charts, bar graphs, and line graphs. Students collect, organize, and display the data with appropriate notation in tables, charts, bar graphs, and line graphs and students make predictions and decisions based on data.

Extended Standard 5: Students in Grade 5 read and display data in simple tables, charts, bar graphs, and line graphs. Students make predictions based on data.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	5.M.5.5	Make predictions or decisions based on data.	5.M.5.5.1 Make predictions and decisions based on data. (308.01.c)		5.M.5.5.1.A Make predictions based on data.